Yellow

7ES

Site Westlake Landfill
ID # MBD079900932
Break 2.4 a(2)
Other comments
9-27-96

0714

SEP 27 1996

Ward E Herst, CPHG CEM
Program Director - Hydrogeology
Golder Associates Inc
200 Union Boulevard
Suite 500
Lakewood Colorado 80228

Dear Mr Herst

I am providing the comments on the Physical Characterization Technical Memorandum for the West Lake Landfill Operable Unit 2 Birdgeton, Missouri A number of these comments are editorial in nature and are of little significance, while others are of more concern and should be addressed in a document modification The comments are organized as the document is written Each comment will be preceded by the page number and the section number of the location where the specific comment is found In some instances, only section numbers will be given as the comment is generic to that section I am aware that you have already received a copy of the State of Missouri's comments, but I have integrated them into this letter as well

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2 4 - general - The word `series' is usually capitalized when it follows a specific formation name as it has been done in Section 4 1

SUPR MOKS Kinser dulmer Disk 1-pctmcmt wpd 9/25/96 du X7677

MOKS
Kinser
9/27/96

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Kovac
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Figure 3-2 - This figure shows that the screened interval of the borehole has been grouted with a cement/bentonite grout My assumption is that this is not the case This is not the only problem with the figure, additional modifications will be necessary to complete the figure I am enclosing a copy of the figure with some suggested modifications These should guide you in redrafting the figure to show what was actually constructed It would be beneficial for a well construction diagram for each well to be used in the monitoring system to be included, or at least a table of elevations for the various elements to provide specific details at to the construction of each well in the monitoring system, and a figure showing a typical long-screened interval Piezometer

Table 3-3 General - I assume that all data taken for this table were available to the nearest 1/100th of a foot since the majority of the data are reported that way For consistency, all data should be reported to the nearest 1/100th of a foot The table should also include a note detailing which reference system was used for both horizontal and vertical data

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4-29 / 4 3 2 - Is there a source of data to support the statement that precipitation falling into the active landfill is estimated to contribute an average of about 99,000 gallons per day? If so, it would be helpful to include that information in this report

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the west of the observed groundwater divide Leachate monitoring well LR-102 is not included in the monitoring system, is there a reason for this? Why were none of the existing wells used in developing the characterization?

This concludes my comments on the technical memorandum There is no reason to completely revise the document Change pages to address the specific comments will be adequate There is significant need to further explain the rationale of the proposed monitoring system, particularly that portion of the system that was not included If you have comments or questions, please do not hesitate to contact me at (913) 551-7728

Sincerely,

Steven E Kinser R G
Remedial Project Manager
Missouri/Kansas Remedial Branch
Superfund Division

Enclosure

cc Doug Bolrro
Laidlaw Waste Systems Ltd
3221 North Service Road
Burlington, Ontario
Canada L7R 3Y8

Michael D Hokley, Esq
Spencer Fane Britt & Browne
1400 Commerce Bank Building
1000 Walnut Street
Kansas City, Missouri 64106

Jalal El-Jayyousi, MDNR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY KANSAS 66101

SEP 27 1990

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Program Director Hydrogeology
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Remedial Project Manager
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1000 Walnut Street
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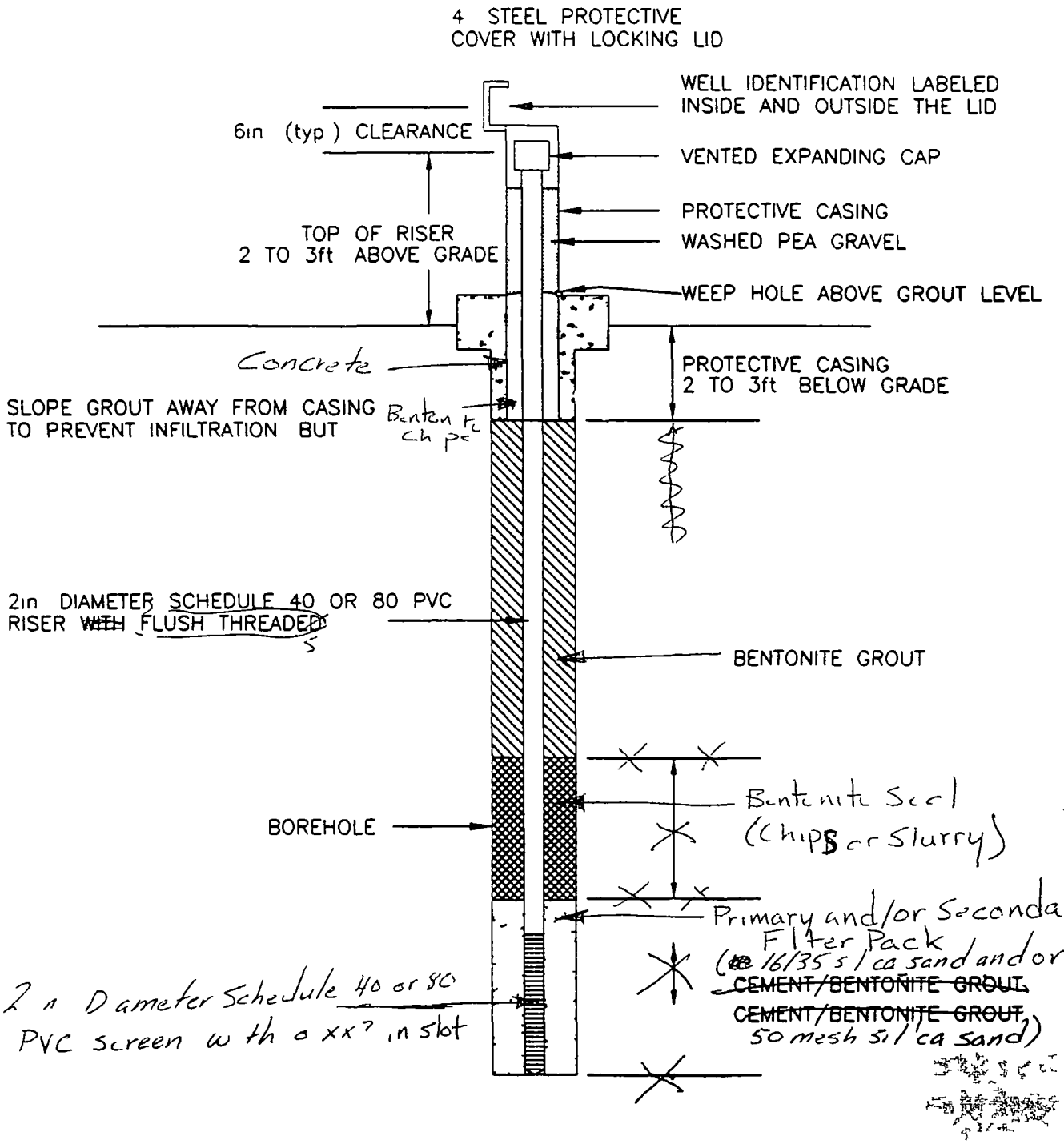

Golder Associates Denver Colorado		TITLE: TYPICAL PIEZOMETER CONSTRUCTION DETAILS		
CLIENT/PROJECT: LAIDLAW WASTE SYSTEMS INC. — WEST LAKE LANDFILL	DRAWN: TMC	DATE: AUGUST 1996	JOB NO: 943-2848	
	CHECKED: CER	SCALE: AS SHOWN	DWG NO/REV NO: A034	
	REVIEWED: WEH	FILE NO: 2848A034	FIGURE NO: 3-2	

Golder Associates Inc

1630 Heritage Landing Suite 103
St Charles MO USA 63303
Telephone (314) 936 1554
Fax (314) 936 1135

Golder Associates

October 9 1996

Our Ref 943-2848 601

U S Environmental Protection Agency
Region VII
WSTM/SPFD/REML
726 Minnesota Avenue
Kansas City Kansas 66101

Attention. Mr. Steven Kinser

RE MONTHLY PROGRESS REPORT - SEPTEMBER 1996
WEST LAKE (BRIDGETON) LANDFILL
OPERABLE UNIT 2 RI/FS

Dear Mr Kinser

On behalf of Laidlaw Waste Systems, Inc (Laidlaw), Golder Associates Inc (Golder) has prepared the following progress report in accordance with Section XIII Paragraph 39 of the Administrative Order on Consent (Consent Order) EPA Docket No VII-94-F-0025 The progress report describes activities conducted in September 1996

I ACTIONS TAKEN TO COMPLY WITH THE CONSENT ORDER

Activities conducted in September include collection of monthly water levels Water level monitoring conducted in September included piezometers and wells adjacent to the Operable Unit 1 area in addition to the Operable Unit 2 piezometers wells and leachate risers

II VALIDATED RESULTS RECEIVED

The attached Tables 1 and 2 list water level data collected from the piezometers and wells Table 1 presents data for OU-2 monitoring points Table 2 presents data for OU-1 monitoring points

III WORK PLANNED DURING OCTOBER AND NOVEMBER 1996

Activities planned for October and November 1996 include the following

- Collection of groundwater surface water sediment and leachate samples in November subject to EPA's approval of the recommended sampling locations

IV MATERIAL PROBLEMS ENCOUNTERED OR ANTICIPATED MATERIAL DELAYS

No material delays were encountered in September and none are anticipated for October and November

If you have any questions or comments please contact Mr Doug Borro the Respondent's designated Project Coordinator or the undersigned

Sincerely

GOLDER ASSOCIATES INC

Ward E Herst CPHG CEM
Program Director Hydrology
Associate

WEH/cl

Attachments

cc Michael Hockley Esq Spencer Fane Britt & Browne
Doug Borro Laidlaw Waste Systems Inc
Charles Ketring - Laidlaw Waste Systems Inc
Jalal El Jayyousi - Missouri Department of Natural Resources
Paul Rosasco - Engineering Management Support Inc

2848Oct2 doc

TABLE 1
GROUNDWATER, LEACHATE AND SURFACE WATER ELEVATION SUMMARY
WEST LAKE LANDFILL OU-2

Monitoring Location	Date								
	Jan 4, 1996	Feb 6 1996	Mar 4 1996	Apr 3 1996	May 3 1996	June 13 1996	July 12, 1996	Aug 8 1996	Sept 6 1996
	Groundwater Elevation								
Shallow Alluvial Piezometers									
PZ 112 AS	431 05	430 46	429 80	429 53	430 73	434 63	434 31	433 61	432 73
PZ 113 AS	431 07	430 47	429 93	429 48	430 79	432 74	434 39	433 65	432 76
PZ 114 AS	431 20	430 67	430 09	429 93	431 60	435 18	434 46	433 75	432 79
PZ 205 AS	430 98	430 54	431 04	429 85	430 68	433 79	433 71	433 10	432 43
PZ 207 AS	431 10	430 52	429 97	429 66	431 12	434 99	434 52	433 84	432 83
PZ 300 AS	434 11	434 03	433 72	434 02	****	****	****	****	****
PZ 302 AS	431 34	430 80	430 27	430 03	431 26	434 63	434 12	433 55	432 77
PZ 303 AS	431 28	430 64	430 03	429 77	430 99	434 37	434 23	433 56	432 76
PZ 304 AS	431 13	430 52	429 93	429 59	431 07	434 44	434 14	433 50	432 67
Intermediate Alluvial Piezometers									
PZ 302 AI	431 27	430 66	430 08	426 75	431 10	434 36	434 05	433 41	432 66
PZ 304 AI	431 16	430 57	429 96	429 62	431 13	434 48	434 20	433 54	432 73
PZ 305 AI	431 03	430 56	429 93	429 79	430 65	434 36	434 17	433 47	432 68
Deep Alluvial Piezometers									
PZ 113 AD	431 03	430 44	429 92	429 62	430 81	434 79	434 35	433 7	432 74
PZ 300 AD	432 12	431 44	430 73	430 63	****	****	****	****	****
St Louis/Upper Salem Hydrologic Unit Piezometers									
PZ 100 SS	413 63	413 46	413 20	412 87	412 83	413 10	412 94	412 65	411 16
PZ 101 SS	387 48	385 28	385 58	385 24	385 09	377 47	387 08	387 65	388 08
PZ 102 SS	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive

Notes provided on page 4

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WEST LAKE LANDFILL OU-2

Monitoring Location	Date								
	Jan 4 1996	Feb 6, 1996	Mar 4 1996	Apr 3 1996	May 3 1996	June 13 1996	July 12 1996	Aug 8 1996	Sept 6 1996
	Groundwater Elevation								
St Louis/Upper Salem Hydrologic Unit Piezometers--Continued									
PZ 102R SS	420 59	404 70	404 61	418 91	418 24	419 58	420 60	421 26	420 04
PZ 103 SS	361 47	362 30	362 01	362 85	363 71	364 44	363 42	363 57	363 49
PZ 104 SS	361 53	365 31	362 92	362 99	376 44	376 30	371 10	368 69	366 75
PZ 105 SS	343 21	357 52	350 46	356 22	376 83	376 59	370 61	367 78	365 26
PZ 106 SS	343 70	359 94	347 42	357 55	371 56	375 01	368 46	369 05	369 83
PZ 107 SS	430 90	430 24	429 58	429 35	430 34	433 79	433 55	432 90	432 11
PZ 108 SS	346 47	351 88	346 25	356 00	359 97	361 50	358 19	358 88	361 37
PZ 109 SS	350 40	350 84	350 87	350 78	352 41	358 18	360 57	356 04	355 94
PZ 110 SS	429 87	429 09	428 31	427 51	428 65	432 45	432 09	431 75	431 13
PZ 113 SS	431 16	430 58	430 06	429 65	430 89	434 81	434 46	433 72	432 83
PZ 115 SS	414 34	413 23	406 34	414 31	423 51	425 80	421 85	419 56	414 51
PZ 116 SS	330 68	351 62	346 13	337 96	353 41	364 27	365 51	355 55	356 16
PZ 200 SS	412 73	412 42	412 14	412 03	412 05	412 36	412 28	411 94	412 08
PZ 201 SS	452 45	452 24	452 21	451 88	451 69	452 34	453 27	453 04	453 14
PZ 201A SS	412 13	411 92	411 92	412 06	412 03	412 58	413 08	413 17	412 65
PZ 202 SS	438 64	441 28	440 27	441 20	441 81	446 98	447 77	447 96	447 36
PZ 203 SS	(Dry)	(Dry)	(Dry)	(Dry)	(Dry)	379 04	375 52	375 55	375 49
PZ 204 SS	431 58	440 83	439 74	440 02	441 19	441 45	440 23	434 28	428 30
PZ 204A SS	403 78	405 38	405 15	405 46	406 69	406 07	405 53	404 54	403 41
PZ 205 SS	420 28	419 93	419 10	419 11	420 13	423 25	422 97	422 56	423 06

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	Jan 4 1996	Feb 6 1996	Mar 4 1996	Apr 3 1996	May 3 1996	June 13 1996	July 12, 1996	Aug 8 1996	Sept 6 1996
	Groundwater Elevation								
St Louis/Upper Salem Hydrologic Unit Piezometers--Continued									
PZ 206 SS	414 13	413 86	413 53	413 80	414 81	419 31	418 89	418 49	418 28
PZ 208 SS	428 60	428 93	426 41	428 87	432 54	434 82	434 73	434 55	430 17
PZ 300 SS	427 50	427 88	426 56	426 58	****	****	****	****	****
PZ 301 SS	395 65	407 66	415 13	420 17	423 94	427 35	428 76	429 44	NA
PZ 1201 SS	376 00	378 52	372 92	379 44	NM	378 82	380 34	378 41	373 77
MW 1206	348 17	359 29	350 53	359 27	****	****	****	****	****
Deep Salem Piezometers									
PZ 100 SD	355 04	363 01	357 73	372 88	367 82	375 93	367 04	367 56	367 13
PZ 104 SD	343 15	361 88	348 24	360 25	370 88	376 92	367 77	370 08	363 66
PZ 106 SD	341 52	356 82	346 26	350 17	364 81	369 43	367 31	364 65	360 31
PZ 111 SD	430 63	430 06	429 43	428 90	429 00	432 55	433 46	433 19	NA
MW 1204	306 96	356 52	318 98	332 51	344 32	360 30	332 89	353 08	NA
MW 1205	339 32	350 89	314 15	342 90	****	****	****	****	****
Keokuk Piezometers									
PZ 100 KS	432 69	435 10	433 96	435 71	435 56	438 84	439 35	439 50	439 39
PZ 104 KS	440 22	443 10	441 74	442 94	443 35	447 35	447 40	447 94	447 07
PZ 106 KS	438 61	440 70	439 91	440 50	440 68	442 63	444 46	444 68	444 41
PZ 111 KS	438 77	440 04	439 92	440 13	440 16	442 55	443 66	443 67	443 78

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WEST LAKE LANDFILL OU-2

Monitoring Location	Date								
	Jan 4, 1996	Feb 6 1996	Mar 4, 1996	Apr 3 1996	May 3 1996	June 13 1996	July 12 1996	Aug 8 1996	Sept 6 1996
	Leachate Elevation								
Leachate Risers									
LR 100	449 77	450 14	450 60	450 61	451 64	452 02	451 71	450 84	450 38
LR 102	452 28	452 18	452 22	452 51	452 30	454 20	453 82	453 17	452 67
LR 103	431 00	430 58	429 98	429 71	430 75	434 49	434 25	433 52	432 73
LR 104	431 01	430 56	429 95	429 82	430 59	434 37	434 15	433 46	432 70
LR 105	453 39	453 40	453 61	453 70	453 43	453 61	453 71	457 84	453 61
	Surface Water Elevation								
Staff Gauges									
SG 8	433 68	433 98	(Dry)	433 99	433 07	433 86	433 87	433 16	(Dry)
SG 9	433 68	433 98	(Dry)	433 97	433 02	433 86	433 87	433 11	(Dry)

NOTES

NA = Not available Water level data was not collected on the indicated date either because the piezometer leachate riser or staff gauge had not yet been installed or development was not yet completed An equipment malfunction prevented measurement of the water level in PZ 206 SS on December 14 1995

PZ 102 SS was replaced by PZ 102R SS and is inactive

LR 101 was not installed because leachate was not present

All elevations provided in feet above Mean Sea Level (MSL)

**** = Wells decommissioned in May

TABLE 1
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WEST LAKE LANDFILL OU-2

Monitoring Location	Date						
	June 27 1995	July 26, 1995	Aug 26, 1995	Sept 30 1995	Oct 30, 1995	Nov 18 1995	Dec 14 1995
	Groundwater Elevation						
Shallow Alluvial Piezometers							
PZ 112 AS	436 12	435 12	434 67	432 84	432 13	431 84	431 15
PZ 113 AS	435 64	435 30	434 63	432 91	432 19	431 81	431 18
PZ 114 AS	435 94	435 35	434 90	433 06	432 11	431 93	431 23
PZ 205 AS	434 41	434 33	434 06	432 52	431 90	431 66	431 19
PZ 207 AS	435 94	435 41	434 91	433 02	432 29	431 87	431 19
PZ 300 AS	NA	NA	NA	NA	436 41	435 50	434 94
PZ 302 AS	NA	NA	NA	NA	432 34	432 08	431 86
PZ 303 AS	NA	NA	NA	NA	432 19	432 01	431 74
PZ 304 AS	NA	NA	NA	NA	432 19	431 91	431 63
Intermediate Alluvial Piezometers							
PZ 302 AI	NA	NA	NA	NA	432 16	432 00	431 73
PZ 304 AI	NA	NA	NA	NA	432 19	431 98	431 66
PZ 305 AI	NA	NA	NA	NA	431 10	431 80	431 34
Deep Alluvial Piezometers							
PZ 113 AD	435 68	435 13	433 74	432 89	432 28	431 82	431 18
PZ 300 AD	NA	NA	NA	NA	432 89	432 78	432 41
St Louis/Upper Salem Hydrologic Unit Piezometers							
PZ 100 SS	405 36	416 06	415 23	414 35	414 04	413 85	413 68
PZ 101 SS	393 23	394 58	393 37	390 00	388 96	387 58	386 76
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PZ 102R SS	403 09	424 30	424 87	422 80	421 99	421 63	420 78
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PZ 105 SS	336 26	339 83	352 45	346 80	343 23	342 76	342 53
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PZ 300 SS	NA	NA	NA	NA	428 62	428 32	427 80
PZ 301 SS	NA	NA	NA	NA	358 09	357 19	384 19
PZ 1201 SS	NA	392 33	365 30	377 98	375 25	374 88	374 88
MW 1206	368 19	367 12	367 86	351 67	361 31	362 46	348 15
Deep Salem Piezometers							
PZ 100 SD	394 61	370 68	381 79	366 35	363 78	364 43	356 68
PZ 104 SD	359 05	356 64	362 97	344 33	341 68	341 90	339 05
PZ 106 SD	358 64	353 52	361 98	348 44	346 40	347 38	340 60
PZ 111 SD	373 70	423 87	428 55	432 22	431 90	431 47	430 93
MW 1204	333 83	330 01	357 27	305 57	324 30	303 18	309 24
MW 1205	352 28	357 38	296 81	341 10	347 04	317 88	337 07
Keokuk Piezometers							
PZ 100 KS	438 17	438 93	437 84	434 72	433 90	433 67	432 84
PZ 104 KS	444 63	444 74	444 27	441 98	440 99	440 77	440 42
PZ 106 KS	442 18	442 51	442 48	440 30	439 47	439 02	438 82
PZ 111 KS	441 58	441 91	442 01	440 39	439 68	439 14	438 85

Notes provided on pages 4 and 8

TABLE 1
GROUNDWATER, LEACHATE AND SURFACE WATER ELEVATION SUMMARY
WEST LAKE LANDFILL OU-2

Monitoring Location	Date						
	June 27, 1995	July 26 1995	Aug 26 1995	Sept 30, 1995	Oct 30 1995	Nov 18, 1995	Dec 14 1995
	Leachate Elevation						
Leachate Risers							
LR 100	NA	NA	NA	NA	450 68	450 42	449 90
LR 102	NA	NA	NA	NA	454 07	452 38	452 31
LR 103	NA	NA	NA	NA	432 10	431 86	431 32
LR 104	NA	NA	NA	NA	432 04	432 20	431 35
LR 105	NA	NA	NA	NA	451 81	452 44	452 38
	Surface Water Elevation						
Staff Gauges							
SG 8	NA	NA	NA	NA	433 92	433 54	432 75
SG 9	NA	NA	NA	NA	433 92	433 54	432 75

NOTES

NA = Not available Water level data was not collected on the indicated date either because the piezometer leachate riser or staff gauge had not yet been installed or development was not yet completed An equipment malfunction prevented measurement of the water level in PZ 206 SS on December 14 1995

PZ 102 SS was replaced by PZ 102R SS and is inactive

LR 101 was not installed because leachate was not present

All elevations provided in feet above Mean Sea Level (MSL)

McLaren Hart®
ENVIRONMENTAL ENGINEERING CORPORATION

April 18, 1996

Mr Steve Kinser
U S Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City Kansas 66101

RESPONSE TO THE APRIL 4, 1996 LETTER REGARDING PROJECT SCHEDULE
WEST LAKE LANDFILL RADIOLOGICAL AREAS 1 AND 2
BRIDGETON, MISSOURI

Dear Mr Kinser

This letter is in response to your April 4, 1996 letter regarding the project schedule Your letter raised concerns regarding the Overland Gamma Survey Report the timely submittal of soil and groundwater analytical data and the overall project schedule With this letter we are outlining a plan to address these concerns

As indicated below we will be submitting the revised Overland Gamma Survey Report to you by May 1 We are in the process of resolving the quality assurance/quality control (QA/QC) issues associated with the soil and groundwater thorium-230 analyses and will be sending you a separate letter regarding these issues within the next week Copies of all soil and groundwater data not previously included in the monthly status reports will be attached to the April status report to be submitted on May 10 Two separate interim reports, one presenting all analytical data and findings from the soil investigation, and the other presenting data and findings from the groundwater investigation, will be sent to you within four weeks of receiving your response/comments and resolution of the thorium-230 issue

Soil Analytical Data

Copies of all soil analytical results (priority pollutant and radionuclide) have been forwarded to you as attachments to the monthly status reports (October and November 1995) except background and surface soil radiological results, recent surface soil sampling along the north berm of Area 2 and re analysis of selected soil samples for thorium The submittal of these soil data has been delayed pending resolution of the thorium 230 issue

With regard to the thorium 230 analytical data, we are in the process of evaluating the quality of the data Preliminary indications are that some of the thorium 230 data may need to be

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qualified To date 21 samples have been reanalyzed Re analysis indicates that 18 of the 21 samples had lower thorium 230 concentrations than the original samples This issue will be discussed in more detail in the separate thorium 230 letter

Groundwater Analytical Data

Two rounds of groundwater sampling and analyses have been conducted The first round was in November 1995 and the second was in February 1996 During both sampling rounds, samples were analyzed for priority pollutants and radionuclides All analytical data have been received however the February 1996 radiological data is currently undergoing validation The only groundwater data submitted to you as of this date is the priority pollutant data for both sampling rounds The November data was included in a letter dated January 9 1996 and the February data was attached to the March 1996 monthly status report

The November radiological data has not been forwarded to you because there was an issue regarding the thorium analytical results, specifically the laboratory internal guidance chemical yields (thorium 229 tracer) were below the acceptable range for a significant portion of the samples We have been working with the laboratory on this issue and wanted to obtain analytical data from the February sampling round prior to forwarding the November data to you The laboratory has indicated that the cause for the lower yields was traced to sample preparation involving precipitation with calcium phosphate At the identification of this problem the laboratory changed from a precipitation method to an evaporation method for sample preparation

Overall Schedule for Completion of the Remedial Investigation, Risk Assessment, and Feasibility Study

As of the date of your letter (April 4 1996) all field aspects of the remedial investigation have been completed with the exception of 1) rainwater runoff/erosional sediment sampling in the vicinity of Area 2 and 2) fugitive dust sampling

With regards to rainwater runoff sampling of Area 2 no storms have occurred since May 1995 to produce sufficient runoff for sampling at all of the planned rainwater sampling locations Sampling of Area 2 during May 1995 did not occur as planned due to the severity of the storm which cause erosional scour and undermining of the weirs which were placed near the western slopes

During the past year we have monitored runoff at the site during and after each storm which produced at least one inch of rainfall at St Louis Lambert International Airport per the Work Plan, and every other rainfall we believed might produce sufficient runoff for sampling During

May through December 1995 based on daily rainfall records, there were only two rainfall events that produced over one inch of rain at Lambert Field Discussions with Gary Neutzling of Sverdrup over the past year has indicated that he is in agreement regarding the lack of significant rainfall in the St Louis area

We are prepared to sample Area 2 runoff should it occur However it is possible that we may not experience any runoff during this year s spring rains As described in the March 1996 monthly status report, during the month of March, an unsuccessful attempt was made to collect rainwater runoff and erosional sediment samples on four separate occasions during or after rainfall events The inspection during the heaviest rainfall in March indicated that flow was occurring at one of the five weir locations and various amounts of ponded water were present immediately behind or in the vicinity of the other four weirs, but no flow was occurring through these weirs

To expedite submittal and review of an interim report on rainwater runoff leachate seep and surface water sampling we can prepare a report presenting all of the data and findings collected to date This interim report can be submitted to you within four weeks of your approval of this approach Alternatively, as this will be the optimal time to perform rainwater runoff sampling, attempts will be made to collect the samples from Area 2 within the next 60 days Another possibility is to sample only those weirs which experience flow, or to sample the ponded water upstream of the weirs If sampling is possible within this time frame a report will be submitted that includes Radiological Areas 1 and 2 This report will be submitted within 45 days after receipt of validated analytical data If sampling does not occur within this time frame a report presenting all of the data and findings collected to date will be submitted within the next 90 days

With regards to fugitive dust sampling sampling was performed on April 11, 1996 Sampling had not occurred prior to this date due to unsuitable weather conditions as set forth in the Work Plan These conditions include average wind speed of 10 mph or greater, no rainfall for three or more days, and no snow cover present Weather conditions observed on the date of sampling included temperatures in the 80 s with warm temperatures the days prior to sampling causing dry surface conditions wind speed between 10 and 30 miles per hour and the last rainfall recorded on April 7 1996 Sampling was performed for an 8 hour duration for both priority pollutant metals and radionuclides We do not expect to receive the analytical data until mid May and will submit a report to you within 30 days after receipt of validated analytical data

With respect to the submittal of interim reports for ultimate inclusion in the remedial investigation report, the following reports are planned

- Revised Overland Gamma Survey Report
- Endangered Species Assessment Report
- Site Reconnaissance Report
- Soil Boring/Surface Soil Sampling Report
- Groundwater Conditions Report
- Leachate/rainwater/Surface Water Report
- Landfill gas/radon/fugitive dust

Additional letters to be submitted during this same time period include the following

- Letter addressing thorium 230 soil and groundwater analytical data
- Disposition of drill cuttings
- Disposal of groundwater sampling purge water

As you requested attached is a schedule for the submission of these reports and other reports to be prepared as part of the RI/FS

With regards to the TLD report omitted from the February 1996 monthly status report, it has been submitted by letter dated April 10, 1996

Should you have any questions regarding this letter, please do not hesitate to contact Bruce Ehlenringer at (810) 358-0400 or David Heinze at (314) 770-9233

Sincerely

McLAREN/HART ENVIRONMENTAL ENGINEERING CORPORATION

Bruce E Ehlenringer
Managing Principal Geoscientist
(Hydrogeology)

David J Heinze
Associate Engineer

cc Doug Borro, Laidlaw Waste Systems, Inc
Michael Hockley Spencer Fane Britt & Browne
William Werner, Esq , The Stolar Partnership
Charlotte L Neitzel Esq Holme Roberts and Owen
James W Wagoner U S Department of Energy
Paul Rosasco Engineering Management Support Inc
Gary Carlton McLaren/Hart

West Lake Landfill Radiological Areas 1 and 2
Report Submittals Schedule

Report	Scheduled Submittal Date
Revised Overland Gamma Report	May 1 1996
Endangered Species Assessment Report	May 16, 1996
Site Reconnaissance Report	May 16, 1996
Soil Boring/Surface Sampling Report	Within four weeks of receiving your response/comments to the thorium-230 letter
Groundwater Conditions Report	Within four weeks of receiving your response/comments to the thorium-230 letter
Leachate/Rainwater/Surface Water Report	Within four weeks of receiving your response to approach of submitting an interim report without analytical data from Area 2 Alternatively, the report can be delayed in an attempt to collect rainwater runoff/erosional sediment samples from Area 2 within 60 days, if sampling occurs the report will be submitted within 45 days of receipt of validated analytical data otherwise the report will be submitted with findings collected to date
Landfill Gas/Radon/Fugitive Dust Report	Within 45 days of receipt of validated analytical fugitive dust sampling data
Site Characterization Report	Within 30 days of acceptance of the interim reports
Risk Assessment	After submittal of the Site Characterization Report submittal date to be determined by the Missouri Department of Health
Remedial Investigation Report	Within 60 days of receipt from USEPA of the Baseline Risk Assessment per the AOC
Treatability Study Need Evaluation Memorandum	Within 60 days of acceptance of the Site Characterization Report
Development/Screening of Remedial Alternatives including memorandum on Remedial Action Objectives	Within 60 days of acceptance of the RI Report or Treatability Study Report if a study is to be performed
Detailed Analysis of Remedial Alternatives Comparison including Comparative Analysis	Within 45 days of acceptance of report on Development and Screening of Remedial Alternatives
Feasibility Study	Within 45 days of acceptance of the Detailed Analysis of the Remedial Alternatives Comparison

Reports which require revisions by the USEPA will be amended and resubmitted within 45 days of receiving USEPA comments